METHOD AND SYSTEM FOR PROVIDING DYNAMIC HOSTED SERVICE MANAGEMENT ACROSS DISPARATE ACCOUNTS/SITES

RELATED APPLICATION

The present invention is related to a co-pending application filed concurrently herewith and entitled "Scalable Internet Engine," a copy of which is attached hereto and the disclosure of which is hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention relates generally to the field of data processing business practices. More specifically, the present invention relates to a method and system for providing dynamic management of hosted services across disparate customer accounts and/or geographically distinct sites.

BACKGROUND OF THE INVENTION

The explosive growth of the Internet has been driven to a large extent by the emergence of commercial service providers and hosting facilities, such as Internet Service Providers (ISPs), Application Service Providers (ASPs), Independent Software Vendors (ISVs), Enterprise Solution Providers (ESPs), Managed Service Providers (MSPs) and the like. Although there is no clear definition of the precise set of services provided by each of these businesses, generally these service providers and hosting facilities provide services tailored to meet some, most or all of a customer's needs with respect to application hosting, site development, e-commerce management and server deployment in exchange for payment of setup charges and periodic fees. In the context of server deployment, for example, the fees are customarily based on the particular hardware and software configurations that a customer will specify for hosting the customer's application or website. For purposes of this invention, the term "hosted services" is intended to encompass the various types of these services provided by this spectrum of service providers and hosting facilities. For convenience, this group of service providers and hosting facilities shall be referred to collectively as Hosted Service Providers (HSPs).

Commercial HSPs provide users with access to hosted applications on the Internet in the same way that telephone companies provide customers with connections to their intended caller through the international telephone network. The computer equipment that HSPs use to host the applications and services they provide is commonly referred to as a server. In its simplest form, a server can be a personal computer that is connected to the Internet through a network interface and that runs specific software designed to service the requests made by customers or clients of that server. For all of the various delivery models that can be used by HSPs to provide hosted services, most HSPs will use a collection of servers that are connected to an internal network in what is commonly referred to as a "server farm", with each server performing unique tasks or the group of servers sharing the load of multiple tasks, such as mail server, web server, access server, accounting and management server. In the context of hosting websites, for example, customers with smaller websites are often aggregated onto and supported by a single web server. Larger websites, however, are commonly hosted on dedicated web servers that provide services solely for that site. For general background on the Internet and HSPs, refer to Geoff Huston, *ISP Survival Guide: Strategies For Running A Competitive ISP,* (1999).

As the demand for Internet services has increased, there has been a need for ever-larger capacity to meet this demand. One solution has been to utilize more powerful computer systems as servers. Large mainframe and midsize computer systems have been used as servers to service large websites and corporate networks. Most HSPs tend not to utilize these larger computer systems because of the expense, complexity, and lack of flexibility of such systems. Instead, HSPs have preferred to utilize server farms consisting of large numbers of individual personal computer servers wired to a common Internet connection or bank of modems and sometimes accessing a common set of disk drives. When an HSP adds a new hosted service customer, for example, one or more personal computer servers are manually added to the HSP server farm and loaded with the appropriate software and data (e.g., web content) for that customer. In this way, the HSP deploys only that level of hardware required to support its current customer level. Equally as important, the HSP can charge its customers an upfront setup fee that covers a significant portion of the cost of this hardware. By utilizing this approach, the HSP does not have to spend money in advance for large computer systems with idle capacity that will not generate immediate revenue for the HSP. The server farm solution also affords an easier solution to the problem of maintaining security and data integrity across different customers than if those customers were all being serviced from a single larger mainframe computer. If all of the servers for a customer are loaded only with the software for that customer and are connected only to the data for that customer, security of that customer's information is insured by physical isolation.

For HSPs, numerous software billing packages are available to account and charge for these metered services, such as XaCCT from rens.com and HSP Power from inovaware-.com. Other software programs have been developed to aid in the management of HSP networks, such as IP Magic from lightspeedsystems.com, Internet Services Management from resonate.com and MAMBA from luminate.com. The management and operation of an HSP has also been the subject of articles and seminars, such as Hursti, Jani, "Management of the Access Network and Service Provisioning," *Seminar in Internetworking*, Apr. 19, 1999. An example of of a typical HSP offering various configurations of hardware, software, maintenance and support for providing commercial levels of Internet access and website hosting at a monthly rate can be found at rackspace.com.

Up to now, there have been two approaches with respect to the way in which HSPs built their server farms. One approach is to use a homogenous group of personal computer systems (hardware and software) supplied from a single manufacturer. The other approach is to use personal computer systems supplied from a number of different manufacturers. The homogeneous approach affords the HSP advantages in terms of only having to support a single server platform, but at the same time it restricts the HSP to this single server platform. The heterogeneous approach using systems supplied from different manufacturers is more flexible and affords the HSP the advantage of utilizing the most appropriate server hardware and software platform for a given customer or task, but this flexibility comes at the cost of increased complexity and support challenges associated with maintaining multiple server platforms.

Regardless of which approach is used to populate a server farm, the actual physical management of such server farms remains generally the same. When a customer wants to increase or decrease the amount of services being provided for their account, the HSP will manually add or remove a